

## CLAIMS

1. A method for compensating for pump speed effect on transmission line pressure comprising:
  - determining an adjusted line pressure based on a desired line pressure and an effective engine speed; and
  - 5 adjusting a pressure control actuator according to the adjusted line pressure.
2. The method of claim 1 further comprising determining the desired transmission line pressure based on a measured pressure and a transmission range.
3. The method of claim 1 further comprising limiting the adjusted line pressure according to a threshold.
4. The method of claim 3 wherein the threshold includes a maximum and a minimum.
5. The method of claim 1 further comprising estimating an actual transmission line pressure according to the effective engine speed and the desired line pressure.

6. The method of claim 5 further comprising estimating the actual transmission line pressure according to a transmission temperature.
7. The method of claim 2 wherein the transmission range is selectable from a group including drive and reverse.
8. The method of claim 2 wherein determining the desired transmission line pressure includes applying a gain and/or offset according to the transmission range.
9. The method of claim 1 wherein determining the adjusted line pressure includes determining the adjusted line pressure according to a lookup table.
10. The method of claim 1 wherein adjusting the pressure control actuator includes determining a desired pressure control actuator pressure according to the adjusted line pressure and the  
5 transmission range.
11. The method of claim 10 wherein determining the desired pressure control actuator pressure includes applying a gain and/or offset according to the transmission range.

12. A method for compensating for pump speed effect on transmission line pressure comprising:
- determining a desired transmission line pressure based on a measured pressure and a transmission range, including applying
  - 5 a gain and/or offset to the measured pressure according to the transmission range;
  - determining an adjusted line pressure based on the desired line pressure and an effective engine speed;
  - determining a desired pressure control actuator pressure
  - 10 by applying a reverse of the gain and/or offset to the adjusted line pressure; and
  - adjusting a pressure control actuator according to the desired pressure control actuator pressure.
13. The method of claim 12 further comprising limiting the adjusted line pressure according to a threshold.
14. The method of claim 13 wherein the threshold includes a maximum and a minimum.
15. The method of claim 12 further comprising estimating an actual transmission line pressure according to the effective engine speed and the desired line pressure.

16. The method of claim 15 further comprising estimating the actual transmission line pressure according to a transmission temperature.

17. The method of claim 12 wherein the transmission range is selectable from a group including drive and reverse.

18. The method of claim 12 wherein determining the adjusted line pressure includes determining the adjusted line pressure according to a lookup table.

19. A transmission line pressure controller comprising:  
a first module that determines a selected transmission range;  
a second module that determines a desired transmission line pressure;

5 a third module that determines an effective engine speed;  
a controller that communicates with the first module, the second module, and the third module and adjusts a pressure control actuator.

20. The transmission line pressure controller of claim 19 further comprising a sensor that determines a pressure of the pressure control actuator, wherein the second module determines the desired transmission line pressure according to the pressure of the pressure control actuator and the selected transmission range.

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21. The transmission line pressure controller of claim 19 wherein the controller adjusts the pressure control actuator according to a desired actuator pressure.

22. The transmission line pressure controller of claim 21 wherein the controller calculates the desired actuator pressure according to the effective engine speed, the transmission range, and the desired transmission line pressure.

23. The transmission line pressure controller of claim 22 wherein the controller calculates the desired actuator pressure according to a lookup table.

24. The transmission line pressure controller of claim 21 wherein the controller limits the desired actuator pressure according to a threshold.

25. The transmission line pressure controller of claim 22 wherein the threshold includes a maximum and a minimum.

26. The transmission line pressure controller of claim 21 wherein the controller estimates an actual transmission line pressure according to the effective engine speed, a desired transmission line pressure, and a transmission temperature.